MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2022/2023 (TERM ID 2210 & TERM ID 2215)

BFM1014 – FUNDAMENTALS OF FINANCE

(All Sections/Groups)

15 FEBRUARY 2023
2.30 pm – 4.30 pm
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **5** pages with **4** questions only excluding the cover page.
2. Attempt ALL questions The distribution of the marks for each question is given.

INSTRUCTION: Answer all questions

QUESTION 1

(a) Congratulations. You are just hired as a business reporter for a local newspaper. You are given the task of putting together a series of articles that explain the power of the time value of money to the readers. Your editor would like you to address several specific questions in addition to demonstrating for the readership on the use of time value of money techniques by applying them to several problems.

(i) What is the relationship between discounting and compounding?

(2 marks)

(ii) Calculate the future sum of RM 1,000 given that it will be held in the bank for 5 years earning an annual percentage rate (APR) on 10 percent compounded semiannually.

(2 marks)

(iii) If the reader can deposit RM 10,000 into an account paying 9% annual interest either today or exactly 10 years from today. How much better off will the reader be at the end of 40 years if the reader decides to make the initial deposit today rather than 10 years from today?

(4 marks)

(iv) One of the readers has just borrowed RM 100,000 personal loan and agreed to pay it back over the next 25 years in equal end of year payment plus 10% compound interest. What will be the annual payment amount?

(3 marks)

(v) Given an 8% discount rate, what is the present value of a perpetuity of RM 1,000 per year if the first payment does not begin until the end of year 10.

(4 marks)

(b) The dividends policy of Scorpio Inc. has been recently changed to payout 40% of its earnings to shareholders. The current share price is RM 45. The company has just paid dividend of RM 3 per share.

(i) Calculate the growth rate of the dividends if the return on equity is 12 percent.

(5 marks)

(ii) Calculate the cost of equity capital if the price of Scorpio Inc's share is RM 50.

(3 marks)

(iii) Would you invest in this company if your required return is 18 percent? Why?

(2 marks)

(Total: 25 marks)

Continued ...

QUESTION 2

(a) Capital budgeting is the process of allocating or budgeting that usually involved more than just deciding whether to buy a particular fixed asset, launch new product or enter a new market.

(i) Briefly explain all **FIVE (5)** common techniques in evaluating each potential business ventures that are worth to invest.

(10 marks)

(ii) Suppose the company is deciding whether to open a store in a shopping mall. The required investment in improvement is RM 500,000. The store would have a five-year life because everything reverts to the mall owner after that time. The average book value of the investment is RM 250,000 and the average net income estimated for the five years is RM 50,000. What is the average accounting return (AAR)? Should this investment be accepted if the target average accounting return is 30%?

(3 marks)

(b) The Westlife Corporation is trying to choose between the following two mutually exclusive design projects:

Year	Cash Flow Design I	Cash Flow Design II
0	- 84,000	- 29,800
1	30,600	10,500
2	36,900	17,400
3	43,700	15,600

(i) If the required return is 11 percent. What is the Net Present Value (NPV) for both design project? If the company applies the NPV decision rule, which project should it take?

(7 marks)

(ii) If the company applies the profitability index decision rule, which project should the firm accepts.

(5 marks)

(Total: 25 marks)

Continued ...

QUESTION 3

(a) Suppose share in Alpha Air Freight has a beta of 1.2. The market risk premium is 7 percent, and the risk-free rate is 6 percent. Alpha's last dividends was RM 2 per share and the dividends is expected to grow at 8 percent indefinitely. The share currently sells for RM 30.

(i) What is Alpha's cost of equity capital based on Security Market Line (SML) method?

(4 marks)

(ii) What is Alpha's cost of equity capital based on Dividends Growth Model (DGM) method?

(4 marks)

(iii) What is the best estimation of the Alpha's cost of equity?

(2 marks)

(b) Suppose you have been hired as financial consultant to Defense Electronics, Inc (DEI) a large, publicly traded firm that is the market share leader in radar detection systems (RDS). The company is looking at setting up a manufacturing plant oversea to produce a new line of RDSs. This will be a five-year profit. The company bought some land three years ago. The company wants to build its new manufacturing plant on this land. The plant and equipment will cost RM 37 million to build. The following are the current DEI's securities data. Corporate tax rate is 28%.

Debt	205,000 bonds with coupon rate of 5.8 percent outstanding, RM 1,000 par value, 25 years to maturity, selling for 106 percent of par. The bond makes semi-annual payments with yield to maturity of 5.36 percent
Ordinary Share	8,600,000 shares outstanding, selling for RM 67 per share with the beta of 1.15.
Preferred Share	500,000 shares of 4 percent preferred share outstanding, a RM 100 par value, currently selling for RM 83 per share.
Market	7 percent market risk premium and 3.1 percent risk free rate.

(i) Calculate the cost for each of the capital resources.

(6 marks)

(ii) Calculate the weighted for each of the capital resources.

(6 marks)

(iii) Calculate the weighted average cost of capital (WACC).

(3 marks)

(Total: 25 marks)

Continued ...

QUESTION 4

(a) Below are some of the information extracted from Perfect Purchase Electronics company financial statements.

Selected Income Statement Items	
Cash Sales	RM 1,500,000
Credit Sales	7,500,000
Total Sales	9,000,000
Cost of Goods Sold (COGS)	6,000,000

Selected Balance Sheet Accounts	12/31/2020	12/31/2021
Accounts Receivable	RM 270,000	RM 240,000
Inventory	125,000	100,000
Accounts Payable	110,000	90,000

(i) What is the operating cycle for 2021.

(6 marks)

(ii) What is the cash cycle for 2021

(4 marks)

(iii) What are the three motives for holding cash?

(3 marks)

(b) Information on Pelita Company which sells electric sockets is given as follows:

Demand rate	=	10,000 unit per year
Ordering/fixed cost	=	RM 20 per order
Holding/carrying cost	=	RM 2.50 per unit

Let assume that if Pelita Company orders 850 units of sockets per month, calculate the followings.

(i) What is the total carrying cost?

(2 marks)

(ii) What is the restocking cost?

(2 marks)

(iii) What is the total cost?

(2 marks)

(iv) What is the economic order quantity for the store?

(2 marks)

(v) Is the company is having an optimal inventory policy in terms of inventory cost, order size and order frequency.

(4 marks)

(Total: 25 marks)

Continued ...

APPENDIX

Future Value:

$FV = PV(1 + r)^t$

Annuities

$$PV = PMT\left[\frac{1-\frac{1}{(1+r)^t}}{r}\right]$$

$$FV = PMT\left[\frac{(1+r)^t - 1}{r}\right]$$

Perpetuity: $PV = PMT / r$

EAR & APR

$$EAR = \left[1+\frac{APR}{m}\right]^m - 1$$

$$APR = m\left[(1+EAR)^{1/m} - 1\right]$$

Bond Pricing

$$\text{Bond Value} = C\left[\frac{1-\frac{1}{(1+YTM)^t}}{YTM}\right] + \frac{F}{(1+YTM)^t}$$

Stock Value

$$\hat{P}_0 = \sum_{t=1}^{\infty}\frac{D_t}{(1+R)^t}$$

Estimating Dividends

Zero growth: $P_0 = D / R$

Constant Growth Stock: $D_t = D_0(1+g)^t$

Dividend Growth Model:

$$\hat{P}_0 = \frac{D_0(1+g)}{R-g} = \frac{D_1}{R-g}$$

Nonconstant + Constant growth

$$\hat{P}_0 = \frac{D_1}{(1+R)^1} + \frac{D_2}{(1+R)^2} + \frac{D_3}{(1+R)^3} + \ldots + \frac{D_\infty}{(1+R)^\infty}$$

Net Present Value

$$NPV = \sum_{t=0}^{n}\frac{CF_t}{(1+R)^t} - CF_0$$

Cost of equity

$$R_E = R_f + \beta_E(E(R_M) - R_f)$$

WACC

$= E/V \times R_E + P/V \times R_P + D/V \times R_D(1 - T_C)$

Operating Cycle = inventory period + accounts receivable period

Cash Cycle = Operating Cycle – Accounts payable period

EOQ Model $Q^* = \sqrt{\frac{2TF}{CC}}$

End of Paper